ABSTRACT

The present invention provides a simulation for displaying a screen formulated from data, such as a FLIR sensor, relying on color definitions that are more readily supported by common image generators, most preferably 8-bit per channel RGB color processing and video output. The system has an image generator that transmits a video signal of at least two digital data channels, and a display system with a combiner circuit and a visual display device. The bit sets of the channels each represent a respective value of the data variable at a resolution for that channel, and the bit sets of the second channel each represent a respective value of the data variable at a second resolution higher than the resolution of the first channel. Combiner circuitry receives the channels of video output and processes these channels to select the channel which represents the accurate data unaffected by clamping. It is preferred to provide at least three channels of pixel data representing the value of the display data, in three different resolutions and ranges, high resolution; middle resolution and low resolution. In the preferred embodiment, the data displayed on the display device are simulated FLIR infra-red intensities, which correlate to the temperatures of the simulated objects being viewed. Preferably, the ranges of different resolution IR data encompass the ambient temperature being simulated, because attenuation of infra-red in reality tends to compress all detected infra-red temperatures to a narrow field around ambient temperature.